

INTO THE MILLENNIUM



ARMY ENVIRONMENTAL POLICY INSTITUTE

1999 Corporate Report



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AEPI Corporate Report: 1994 - 1999

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A Note From AEPI's Director...

No single mission area today is more encompassing than the environment. It is the operational context in which we fight wars and over which wars are fought. It is the land, air, and water which we must preserve and protect in order to train for combat. It is the sum of the measures we take now to preserve our soldiers' quality of life and to develop a sustainable military infrastructure for the millennium.

In times past, the environment was often regarded as a constraint on the Army mission. That perception has now changed, replaced by the recognition that environment plays a major force in total life-cycle cost reductions and in mission success. AEPI is committed to working closely with the Army acquisition community to develop and maintain weapon systems that are environmentally sound and cost-effective, and with the operational community in defining strategies that support the Army in managing its considerable land-based assets and resources.

AEPI's own history in many ways reflects the journey to integrate environmental considerations with the defense mission. Our early projects tended to focus on understanding and prioritizing questions concerning the environment; we now focus on assimilating environmental knowledge and information into the total Army context.

Our capstone effort in the year 2000 is an Army Master Plan that deals directly with the issues of institutionalizing environmental considerations with the Army mission. Our objective is to work in partnership with the Army leadership in defining environmental requirements and priorities, and ensuring these requirements and priorities are fully recognized for their value to the military.



Rebecca Rubin
Director, AEPI

Leadership



**President of the United States of America
The Honorable William Clinton**



**Secretary of Defense
The Honorable William Cohen**



**Secretary of the Army
The Honorable Louis Caldera**



“Protecting America’s natural resources is as important to the United States Army as defending America’s borders.”

- Louis Caldera, Secretary of the Army



**Assistant Secretary of Army
(Installations & Environment)
The Honorable Mahlon Apgar, IV**



**Deputy Assistant Secretary of Army (Environment, Safety & Occupational Health)
Raymond Fatz**

Into the Millennium



Mission for the Millennium

As a forward-looking agent, AEPI will continue to provide strategic perspectives and policy options that incorporate national environmental goals with Army objectives. The component elements of our approach are outlined below.

Review & Analysis of Environmental Issues

AEPI review and analysis is undertaken at the direction of the Deputy Assistant Secretary of the Army for Environment, Safety and Occupational Health. AEPI's strategic and tactical tasks enable the Army to better anticipate emerging environmental issues and to incorporate these issues within the mission. The Institute will continue to partner within the Army and with other federal agencies, academic institutions, and industry on projects that have a long-lasting application to enhancing the Army mission. For example, in the continuing year, AEPI will explore with the Army, energy efficiency options for Army fixed and mobile assets.

Promotion of Environmental Issues

Communication of environmental considerations to installation commanders is a vital task for AEPI. Workshops, roundtables, and conferences hosted and facilitated by AEPI, serve to educate on regional, national, and international issues pertaining to the environment. Specific communication of legislative analysis through posting of the Environmental Legislative and Regulatory Analysis and Monitoring Program (EL-RAMP) allows installation commanders and their staffs access to the latest in environmental concerns. ELRAMP thus allows them to be proactive in their dealings with these types of issues.

Future initiatives will deal with stakeholder involvement to improve the credibility and effectiveness of environmental issues through identification of environmentally affected communities, locales, and individuals.

Institutionalizing Environmental Considerations

The ultimate goal of AEPI is to ensure through sound policy, that the environment is considered in all Army activities involving people, installations, ranges, and equipment.

Projects involving joint stewardship, environmental justice, and active range strategy have helped enhance Army environmental consciousness and action. Future projects will include developing stakeholder involvement at the local, installation, state, and national levels.



Today AEPI prepares the Army's Weekly Environmental Legislative Update to monitor and anticipate legislative requirements, and has done so since the 103rd Congress (1994). This picture shows Mr. Raymond Fatz, Deputy Assistant Secretary of the Army for Environment, Safety and Occupational Health and Ms. Rebecca Rubin discussing the broadening of this program.

Introduction



“We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely.”

-- Professor Edward O. Wilson,
Consilience: The Unity of Knowledge,
1998

Did you know...?

In 1999, AEPI developed and sponsored the first DoD-Industry Roundtable to exchange best practices for “Building Business Value into Environment, Safety, and Health Management.”

In 1999, AEPI supported establishment of an Army long-range policy for partnering with federal and state environmental agencies on unexploded ordnance issues.

In 1999, AEPI prepared the draft revision to Army Regulation 200-2, the Army’s implementing regulation for the National Environmental Policy Act (NEPA), whose purpose is to facilitate improved NEPA actions on Army installations.

In 1999, AEPI, together with several other Army partners, drafted the Army’s environmental justice strategy to help ensure that Army actions do not result in disproportionate impacts on low-income and minority communities.

In 1998, AEPI efforts to integrate environmental considerations into the Army acquisition program resulted in the selection of two Army systems as pilot test cases.

In 1997, the Batelle Memorial Institute and the U.S. Department of Energy named AEPI’s Foresight Program as one of the seven best government programs in the world.

In 1997, AEPI’s assessment of the U.S. Army’s Chemical Stockpile Disposal Project provided recommendations to obtain environmental permits while maintaining a realistic schedule.

In 1995, at the request of Congress, AEPI researched and analyzed impacts of depleted uranium on health and environment. This analysis is published under the title “Health and Environmental Consequences of Depleted Uranium Use in the U.S. Army” and is available on the AEPI website.



Our Evolution

Evolution of AEPI



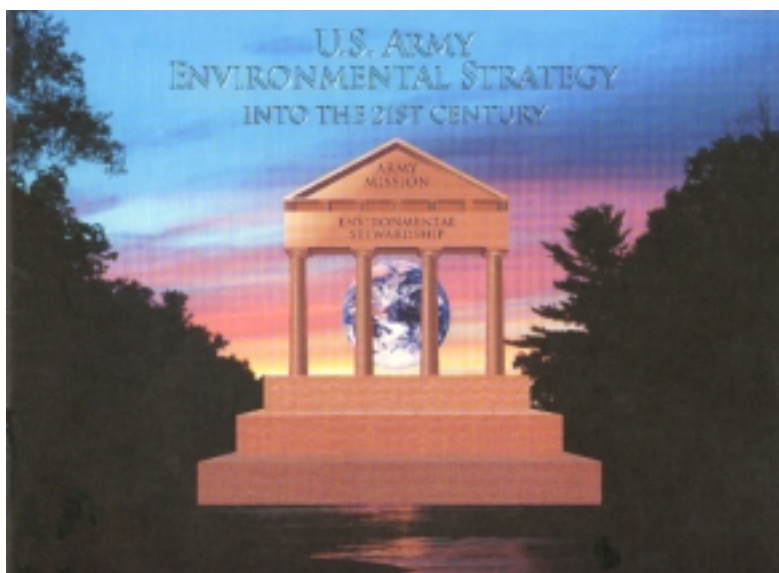
The Under Secretary of the Army established AEPI in September 1990, to better prepare the Army for emerging and future environmental challenges. While originally placed under the aegis of the Corps of Engineers, AEPI was subsequently assigned in 1993 to the Deputy Assistant Secretary of the Army for Environment, Safety and Occupational Health (DASA-ESOH). Today, AEPI continues to serve as the DASA's primary agent for policy analysis.

"The Army Environmental Policy Institute is a scout of the future."

- Mr. Edward Ray Clark, Principal Deputy Assistant Secretary of the Army for Installations and Environment

Army Environmental Strategy

As early as 1991, National Security Strategy emphasized the inextricable link between the environment and national security. Later in 1992, the Army published its *U.S. Army Environmental Strategy into the 21st*



Century, which summarizes the Army environmental goals and actions. AEPI served as the lead activity in coordinating and preparing the framework for this strategy. The strategy organized the environmental program into four major focus areas -- Compliance, Conservation, Restoration, and Pollution Prevention. Today, AEPI assists the Army in its effort to integrate environmental values from all pillars with the Army Mission, in order to sustain readiness, improve the soldier's quality of life, strengthen community relationships, and provide sound stewardship of resources.

Promoting a Culture of Innovation

AEPI reports directly to the Office of the Deputy Assistant Secretary of the Army for Environment, Safety and Occupational Health (DASA-ESOH). AEPI assists the Army Secretariat in developing policies and strategies to improve or resolve environmental issues that may have significant short- and long-term impacts on the Army. Since environmental issues continue to emerge as our knowledge and technology develop, AEPI constantly reassesses future environmental challenges and opportunities for the Army.

AEPI charter responsibilities include:

- ♦ Analyzing future environmental challenges and opportunities, particularly those that may impact on the Army's mission and readiness.
- ♦ Executing review and analysis as a basis for developing environmental policies and strategies.
- ♦ Assessing the costs and benefits to the Army of alternative policies.
- ♦ Partnering with major research institutions, colleges, and universities.
- ♦ Establishing an annual fellowship program for outstanding military environmental specialists.
- ♦ Hosting conferences and meetings to expand Army interaction with academia, industry, and other partners.

“By anticipating the effects of Army activities upon the environment, AEPI helps us determine investments for the future.”

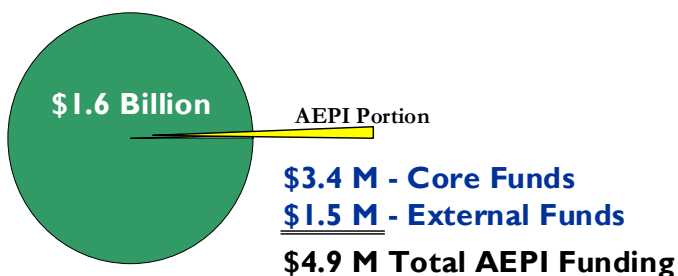
- Raymond J. Fatz, Deputy Assistant Secretary of the Army for Environment, Safety and Occupational Health

Leveraging Resources

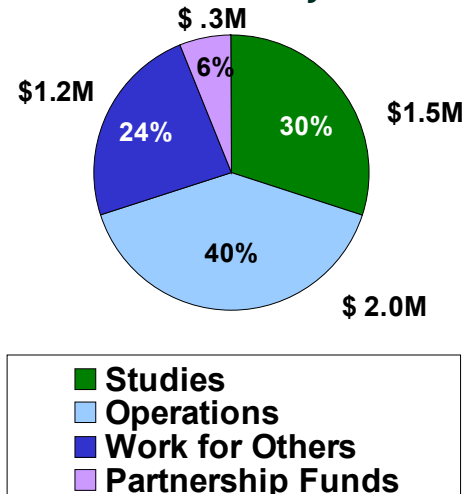
The AEPI budget is only a small fraction (.3%) of the total Army environmental budget each year. AEPI leverages its resources to maximize tangible contributions to the Army's environmental program. AEPI actively partners with other organizations to ensure its studies contribute to informed Army leadership decisions.

AEPI Portion of the Army Environmental Budget

Total FY99 Army Environmental Program Budget



How AEPI Gets the Job Done



Professional Foundation

Internal Resources

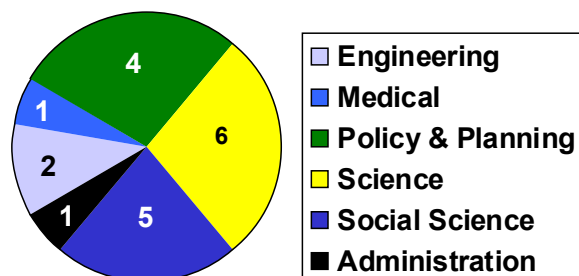
AEPI is committed to excellence, and its professional staff serves as the foundation.

AEPI is comprised of environmental professionals with diverse work experience encompassing military installations, major commands, academic institutions, regulatory agencies, industry, state and local government, and international organizations. Since environmental issues cover a broad spectrum, the staff backgrounds reflect this diversity, including fields such as social science, science, policy and planning, medicine and engineering.

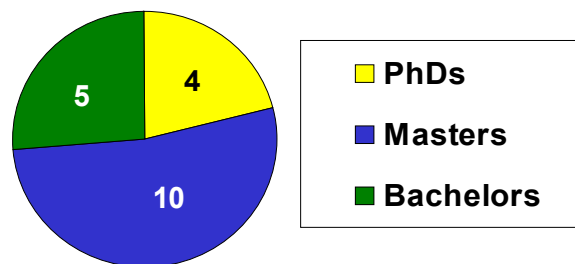
This unique mix of professionals from public and private sectors enriches the Army with new and innovative policy concepts.

The current staff composition of AEPI consists of five permanent federal employees, two detailed federal employees, eight personnel working under the Intergovernmental Personnel Act with universities and non-governmental organizations, three War College Fellows from the Army and Air Force, and one university fellow. AEPI constantly seeks new opportunities to expand its military and university fellowships.

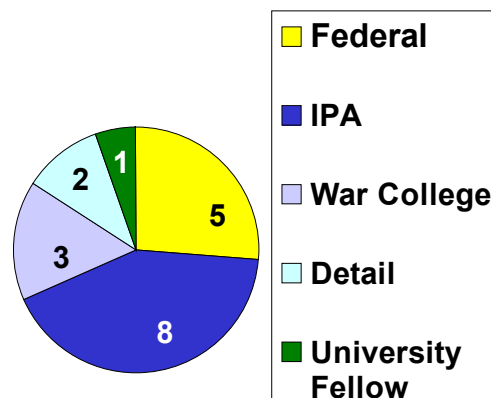
AEPI also employs a small number of accomplished experts and scholars each year to work on projects of mutual interest to AEPI and the sponsoring organization. These professionals provide innovative thinking on Army environmental issues in order to facilitate a better understanding of the environmental future. They also provide recommended solutions to systemic environmental problems affecting military installations.



Professional Disciplines



Professional Degrees



Staff Composition

Joining Forces

External Resources - Fellowship Program

The AEPI Fellowship Program objectives are to generate effective policy for the Army, cross-train visiting and permanent staff, and strengthen donor organization capabilities.

This Fellowship Program supports the general AEPI mission to provide strategic environmental perspectives and policy options in support of military objectives. Fellows complement internal expertise by enhancing our capabilities in programs and projects.

Fellows are competitively selected from other agencies. They bring a diversity of thought and information that strengthens AEPI's ability to institutionalize environmental issues into Army core functions in balance with other military objectives.

In return, donor agencies and Fellows acquire expanded insights on emerging, current, and past environmental issues affecting their missions and the military community.

Since many Fellows have not been environmental professionals but managers in other fields, AEPI gains new insights and perceptions into other agency issues related to environment. Additionally the Fellows are able to take their environmental experiences from AEPI to their next positions.

Fellows come primarily from the Army War College, the Army Safety Center, the Office of The Surgeon General, and U.S. Army Major Commands. However, AEPI encourages other Services and nonmilitary agencies to nominate Fellows to contribute their unique operational perspectives.

The first fellowship initiated the long-term development of a three-volume series of environmental "installation good news stories," which provided key information for the Army's annual environmental program testimony to Congress and Senior Environmental Leadership Conference reviews.

New efforts now underway to better integrate environmental considerations into Army acquisition processes began in 1996 from an Army War College Fellow's paper on the opportunities to prevent avoidable problems and costs faced by commanders receiving new military systems.

Some of the Fellows' project focus has been the planning and managing environmental issues for foreign operational deployments. This study process, initiated over three years ago by two Fellows, defined the philosophical and policy framework that facilitated multi-Service deliberations on problems and solutions. This response to a request from US Army-Europe for a basic enabling policy continues paying dividends to both Joint and Service Component Commanders abroad.

Other important contributions of Fellows' efforts are found in fundamental studies and consultation projects. These include safety considerations in environmental planning and compliance, firing range management and environmental compliance, depleted uranium and other heavy metals issues, U.S. Environmental Protection Agency perspectives on Army policy, Army environmental program structure, and public involvement in natural resource management.



LTC Tim Rensema, AEPI Fellow, and Mr. Rick Sinclair of AEPI, discussing environmental considerations in homeland defense.

Strategic Alliances

Formal Partnerships

Memoranda of Understanding

In order to accomplish its mission in a timely and economic fashion, AEPI formalizes partnerships with military organizations, federal agencies, and academic institutions by means of memoranda of understanding. The guiding principle to these formal partnerships is that “all partners benefit.” These memoranda open doors to joint projects and activities that provide substantial resource savings to all participating organizations.

Military Organizations

Military partners share their knowledge, direct support, and access to stakeholders with AEPI. This often becomes a true partnership, with both parties cooperatively developing policy analysis according to their respective missions.

In 1998, the DoD Southern Regional Environmental Office (SREO) for Federal Region IV collocated with AEPI. SREO works closely with state agencies and military installations to prevent or resolve conflicts involving environmental issues. AEPI also elevate to the DASA-ESOH regional environmental issues that will likely perpetuate to a national level if left unaddressed.

The Army Industrial Ecology Center (IEC), Army Materiel Command, assists AEPI in the developing and implementing Army policy for environmental management systems, while AEPI lends topical expertise. Specifically, AEPI and IEC are conducting a survey of heavy metal use in the Army and modeling fate and transport of explosives residue.

Through the US Military Academy, Institute for National Security Studies, and DoD Uniformed Services University of Health Sciences, AEPI acquires partners in joint projects, peer reviewers of study reports, and high quality studies by scholars at military educational institutions at very

nominal costs. These researchers are supported in developing new ideas, course and research materials, and capabilities for environmental security.

The Army Environmental Center and AEPI share responsibilities for conducting research and analysis for the Environmental Legislative and Regulatory Monitoring Program (ELRAMP). When fully mature, this program will permit anticipatory management and prevention of many emerging environmental issues.

Federal Agencies

The AEPI mission within the Army and the Oak Ridge National Laboratory (ORNL) mission within the Department of Energy are complementary. AEPI and ORNL share environmental data, information resources, and technical expertise.

Academic Institutions

Academic partners offer AEPI intellectual resources for expert studies and peer review of products and access to information sources. While engaged in AEPI projects, professors and graduate students broaden their base of experience and information to include military issues.

AEPI and its partners are dedicated to developing innovative, forward-looking Army environmental policies that will ensure the Army's leadership role among federal organizations in environmental stewardship.

Specific MOUs include these executed with:

- Georgia Institute of Technology and Georgia Technology Research Institute
- Clark Atlanta University
- Georgia State University

The universities provide critical analysis and support to AEPI studies in the areas of technical assistance, anticipating policy issues, and policy analysis.

Strategic Alliances

Regional Activities

Earth Day Expo 1999

AEPI and SREO hosted the 2nd Annual Earth Day Expo, sponsored by the Department of Defense and Zoo Atlanta. Approximately 7,000 Atlanta-area children from 58 schools flooded through the zoo's gates on April 22. With displays set up along the zoo's main walkways, exhibitors taught visitors the importance of environmental issues. Exhibits featured local Army organizations, environmental organizations, and local businesses. Georgia's Lieutenant Governor Mark Taylor addressed the students with opening remarks supporting our Earth Day efforts. Taylor spoke favorably about the cooperations among DOD agencies and Georgia.



"The environment is clearly an area where all of us have nothing but great things to gain. We appreciate the leadership the Department of Defense is taking in that area."
- Lieutenant Governor of Georgia, Mark Taylor

Eco-Talk - Environmental Strategies for the 21st Century

AEPI participated in the Benwood Foundation, Turner Foundation and Oglethorpe University Symposium to heighten student awareness of environmental issues as we move into the 21st Century. College and university students and community members from the Atlanta metropolitan area were invited to participate in "hands-on" activities as well as discussion forums, workshops, and lectures at Oglethorpe University.

American Heritage Rivers



In his 1997 State of the Union address, President Clinton announced the American Heritage Rivers Initiative to recognize and support local community-based river revitalization efforts. President Clinton subsequently issued Executive Order 13061, directing federal agencies to implement the initiative and establishing the process by which communities could nominate their rivers for designation as American Heritage Rivers.

The American Heritage Rivers Initiative was inspired by community efforts already in place to rejuvenate rivers and riverfronts through innovative solutions and broad-based partnerships with businesses and governments. It utilizes existing federal resources to assist communities more effectively .

To facilitate this effort AEPI cohosted the American Heritage River's Symposium held October 1998 in Atlanta. As a follow-on action, AEPI prepared the American Heritage Rivers Symposium Proceedings.



Student inquiring about AEPI at Eco-Talk.



Preparing for the Millennium

“The first mission in taking care of soldiers is making sure that they are trained and ready to accomplish whatever mission our leaders entrust to them. The second mission is to ensure that the Army is ready for America’s tomorrows.”

-- General Eric K. Shinseki, Chief of Staff of the Army

Our Legacy

Highlighted areas include:

ANTICIPATING THE ISSUES

Strategic Environmental Analyses

Environment and the International Military Mission

INSTITUTIONALIZING ENVIRONMENT WITHIN THE ARMY MISSION

Sustainable Acquisition

Sustainable Military Design and Construction

Preserving Land for Combat Training

Integrating Environment with Core Business Practices

Environmental Health Issues

Army Implementation of the National Environmental Policy Act

Native Americans: Training Awareness for DoD

Strategies for Environmental Justice

Today's Actions Can Help Protect the Future



Anticipating the Issues

Strategic Environmental Analyses

AEPI has the charter responsibility to analyze future environmental challenges and opportunities. By identifying emerging issues early in the cycle of development, AEPI can alert the Army in advance to items of potential concern and possible regulation. With enough forewarning, the Army can proactively address these issues.

AEPI selected a method known as environmental scanning to fulfill this important function. Scanning involves reviewing journals and other leading information sources, attending conferences, and contacting experts to identify and then monitor issues as they grow from a spark of interest to, in some cases, national or international concerns.

Through this process, AEPI has identified a number of pertinent issues and allowed the Army to develop action plans to address them before they became compliance hurdles. In 1997, the Battelle Memorial Institute and the U.S. Department of Energy named AEPI's foresight program as one of the seven best government programs in the world.

Recently, AEPI's strategic analysis function has become more formalized by its participation in the Environmental Legislative and Regulatory Analysis and Monitoring Program (EL-RAMP) and participation on the Emerging Nontraditional Security Issues (ENSI) team.

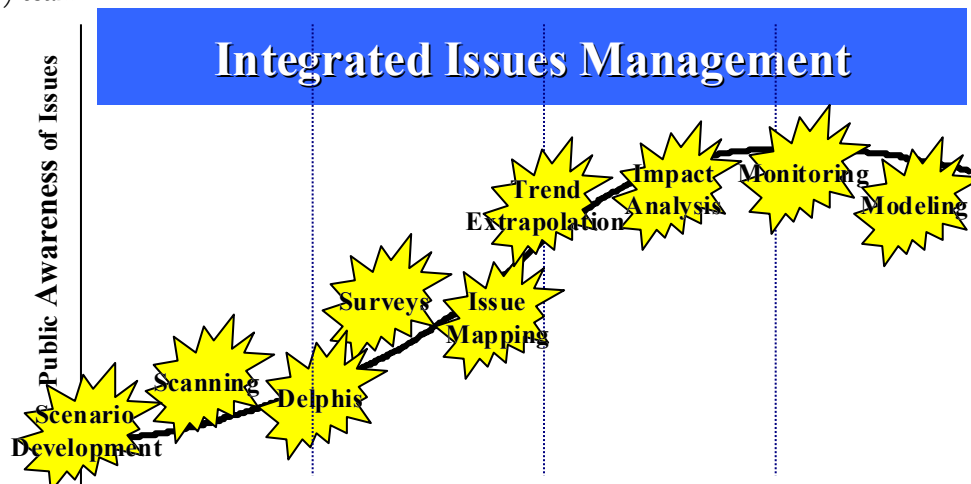
Issues Management

AEPI's entire staff participates in issue identification by scanning numerous information sources, attending key conferences, and participating in workshops where leading experts discuss new topics and technologies. Key staff at AEPI use these staff insights to identify and prioritize emerging issues with potential Army relevance.

AEPI has been asked to present its emerging issues analyses at conferences of the Federal Forecasters, the military Inspectors General, and various professional societies. AEPI also provides issue papers to several military organizations.

Trend Analysis

From 1992-1998, AEPI produced an annual report tracking environmental trends in government, business, public opinion, international affairs, pollution prevention, and conservation arenas. This document was widely distributed to government organizations. In 1997, AEPI released this report on the Internet, increasing its accessibility to the Army's environmental community.



Strategic Environmental Analyses

Emerging Nontraditional Security Issues (ENSI)

In recent years, the scope of national security has broadened to include humanitarian, environmental, and economic concerns. The military recognizes that global issues impact on military activities. To help identify these issues, the Army Chief of Staff created the Emerging Nontraditional Security Issues (ENSI) Team.

AEPI is uniquely situated to provide the ENSI Team with information on emerging issues important to the Army. Relying upon existing capabilities, AEPI identified, recommended, and provided information papers on such key issues as diesel exhaust regulation and endocrine disrupting chemicals.

AEPI's contributions to the ENSI Team will enable the Army to proactively recognize and address important emerging environmental issues in new national security challenges.

Strategic Planning Support

Early in its history, AEPI guided development of the Army's Environmental Strategy. Several organizations, including the U.S. Army Center for Health Promotion and Preventive Medicine, the National Defense Panel, the U.S. Environmental Protection Agency, and the California Environmental Protection Agency, have used AEPI strategic analysis products as the basis for their strategic planning efforts. AEPI provided the Office of the Deputy Chief of Staff for Operations with input to the Defense Planning Guidance and The Army Plan.

Foundational Policy Analysis

As a policy institute, AEPI monitors and anticipates environmental policy needs.

AEPI initiated a process to identify and gather strategic documents, DoD Directives and Instructions, Army Regulations, and policy memoranda important to the environmental community. Ultimately, each document will be summarized and analyzed for key Army information. Each policy will then be cataloged and posted or linked to the World Wide Web for military-wide access.

For the first time, the Army will have a single repository for all environmental policies. AEPI will provide highlights of the most pertinent information, allowing the reader to easily identify environmental provisions.

Regional Issues

AEPI participates in several state and regional activities, as discussed in the introduction section. This participation directly feeds into AEPI's early anticipation of environmental issues. Several issues impacting on the southern region of the U.S. have the potential to elevate to national level issues.

At the request of the Southern Environmental Regional Office, AEPI prepare issue papers on regional topics including ecological risk management policy and land use controls policy. Additionally, AEPI is reviewing non-point source water and watershed management policy issues. These studies serve to share Region IV experiences in these areas with the Army Secretariat and the other regions.

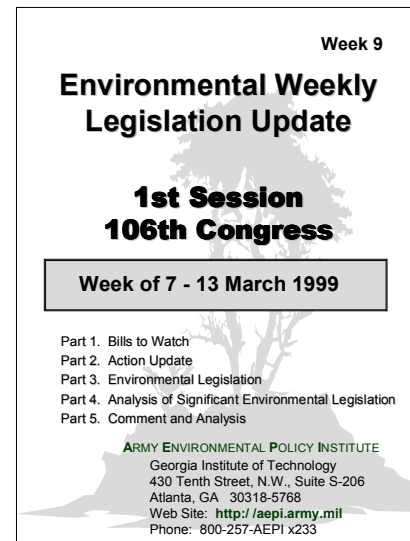
Anticipating the Issues

Strategic Environmental Analyses

Legislative Analysis

In 1996, the Army instituted the Environmental Legislative and Regulatory Analysis and Monitoring Program (ELRAMP) to establish a responsive, efficient, streamlined process for analyzing and reporting legislative and regulatory issues. AEPI served an integral role in the establishment of this committee which has representation from Office of the Directorate for Environmental Programs (ODEP), The Judge Advocate General, Army Environmental Center (AEC), Regional Environmental Offices, and the Major Commands. ELRAMP provides Army program managers and subject-matter experts with timely and objective analysis of future requirements.

AEPI initiated weekly environmental legislative reporting for the 103rd Congress. During the 104th Congress, AEPI distributed its *Weekly Environmental Legislation Update* to over 50 subscribers, including the Secretaries of Defense, Army, Air Force, and Navy, and made it available on AEPI's World Wide Web site. Legislative analyses of bill requirements and tracking of bill status provides advance notice of new requirements to the Army/DoD. By the 105th Congress, AEPI expanded its readership to a distribution of over 150 recipients.



Under DASA-ESOH direction, AEPI also developed the *Summary Report on Annual Defense Appropriations and Authorizations Acts: Environmental Provisions* in FY95. This report identifies, documents, and tracks the status of environmental requirements and contains relevant excerpts of bill text, committee reports, and floor debate. With the successful completion of this report, the Army is positioned to understand the environmental management requirements within the DoD Authorization and Appropriations Acts and is therefore able to respond to all suspenses in a timely fashion.

AEPI expanded its role in the ELRAMP to track not only legislative issues but all non-

traditional emerging environmental issues (e.g. social, technology, etc.). To facilitate this effort, AEPI partnered with Clark Atlanta University to develop a center of expertise. AEPI is preparing case files on emerging environmental issues with the potential to impose significant impacts to Army programs if left unaddressed.



Environment and the International Military Mission

Since the Gulf War, environmental factors are more prominent in the conduct of mission deployments and in their measure of success. To enable the Army to address these factors, institutionalizing environmental programs into mission planning, conduct, and disengagement is increasingly essential. AEPI initiated and now performs a number of activities to facilitate that integration.

Conversion of foresight analyses into future issue projections contributed to bringing environmental issues more visibly into medium- and long-range planning processes through the ENSI team. Special studies have supported DASA-ESOH and outside the continental U.S. (OCONUS) Army commands with needed information to perform their policy, planning, and management tasks for environmental elements of their respective missions.



Bosnia Peacekeeping

Because sensitivity to environmental issues has been heightened and operations improved, deployments are now likely to attract less negative political reaction. Protection of Army personnel from artificial and natural environmental hazards is improving. This expanded integration of the force protection aspect will become ever more important as future systems and missions expose personnel to more complex hazards. The Army has become a leadership example to other nations in this initiative.

Army international concerns are two-fold: to conduct activities within host nations meeting their established criteria, and to shape the international environment to reduce tensions that might provoke conflict in the future. To assist in addressing these concerns, AEPI has:

- ◆ Supported an Army-led team partnering with the Hungarian Ministry of Defense to strengthen its environmental management programs;
- ◆ Administered the Defense Environmental Conference '95, enabling U.S. Armed Forces to share environmental information with 15 European and former Soviet Union nations;
- ◆ Cosponsored, with Georgia Institute of Technology and the University of Miskolc (Hungary), the Defense Ecology Conference '97 to share new research and technologies for restoring contaminated sites;
- ◆ Chaired a working group which defined case study criteria for studies of inter- and intranational cases of military violence originating from environmental causes;
- ◆ Initiated, with the American University, a case study database for use in forecasting likely locations and causes of potential conflict;
- ◆ Supported policy studies in aid of the U.S. European Command in evaluating military-to-military environmental management assistance programs' effectiveness; and
- ◆ Supported a study by the American Council for the United Nations University to determine elements needed in an effective definition of environmental security.

Institutionalizing Environment

Sustainable Acquisition

Controlling Pollution and Its Costs

Environmental considerations and costs must be identified for all Army acquisition programs. This process must start early in the system life cycle to more accurately portray and minimize the total cost of ownership of Army Weapon Systems. Leaving these decisions to later acquisition phases substantially increases environmental cleanup and compliance costs (such as during operation, maintenance, and disposal of the system).

To assist in this process, AEPI is:

- ♦ Assessing the adequacy of current acquisition environmental policies, procedures and practices for control of environmentally hazardous materials;

- ♦ Recommending a streamlined and cohesive set of Army environmental policies for system and materiel acquisitions; and
- ♦ Developing an integrated, systems engineering methodology that will enable the Army to: (1) strengthen and unify how environmental policies are applied to the acquisition of weapons systems; (2) reduce environmental life cycle costs while mitigating risks.

These efforts will determine the best Army policies to minimize total cost of ownership of weapons systems.

AEPI is also exploring the extent to which the Army needs to anticipate national measures to address global warming and is developing series of options to address climate change issues.



Grizzly Study (Methodology Demonstration)

Improved Cargo Helicopter Study (Methodology Validation)



Sustainable Military Design and Construction

Congress appropriates over \$2.2 billion to the total Military Construction Program annually. Pollution prevention guidance and practices exist within this program, but the extent and effectiveness of pollution prevention practices has not been assessed at the program level.



Sustainable Construction Design Plan

AEPI is partnering with regional based organizations to analyze options for the Army concerning the development of energy efficient technology and its application to the design and construction of Army facilities. Energy efficient technology can potentially enhance base operations while decreasing costs.

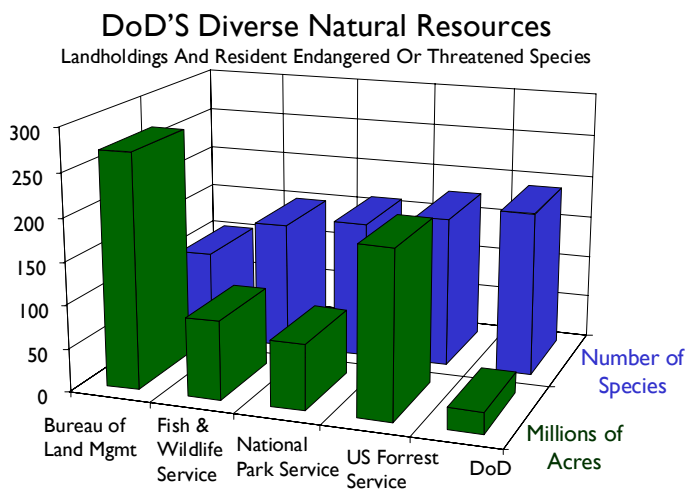
To facilitate this initiative, AEPI invited the Office of the Assistant Secretary of the Army for Installations and Environment and the Office of the Deputy Assistant Secretary of the Army for Installations and Housing to join AEPI and its regional partners in discussing potential Army applications of energy efficient technology in new military construction.



Pictured: Ms. Rebecca Rubin, AEPI Director; Mr. Ray Clark, Principal Deputy to the Assistant Secretary of the Army for Installations and Environment; Mr. Joe Whittaker, Assistant to the Deputy Secretary of the Army for Installations and Housing.

Preserving Land for Combat Training

DoD manages 27 million acres of public lands that serve as critical refuge for a diversity of species and ecosystems. Several threatened and endangered species of plants and animals are present on military installations and bases, requiring training and testing practices that preserve this land. To maintain and protect these natural resources, DoD, in 1998, established the Joint Stewardship Sub-team of the Interagency Military/Land Use Coordinating Committee.



AEPI received Legacy Program funding to partner with several federal land managing agencies in an effort to facilitate a better understanding of each organization and the various approaches to managing natural resources. AEPI is developing methods to enhance coordination of these agencies and minimize conflict among agency missions.

A multi-agency approach to preservation of our nation's natural resources enables the DoD to meet training and testing needs while protecting natural resources. The resulting lessons learned will be used by DoD to enhance its joint stewardship policy.

Unexploded Ordnance Program

The Army is actively pursuing solutions to the challenges of unexploded ordnance (UXO)

remediation and wide-area de-mining. To investigate forward-thinking approaches on how best to manage the ordnance and explosives removal on Army Installations, the Army established the Strategic Management, Analysis, Requirements and Technology (SMART) Team. The SMART Team is a solutions-oriented partnership involving Headquarters Department of the Army, the Army Environmental Policy Institute, EPA Region 9, California Department of Toxic Substance Control, the Army Training and Doctrine Command and Fort Ord. This initiative will form a basis for establishing Army long-range policy for partnering with federal and state environmental agencies, as well as the general public, on complex, and technical environmental issues.

Preservation Efforts

The Army strives to integrate environmental stewardship with its training and testing missions. The Army values maintaining natural and cultural resources to ensure availability of land to provide realistic training. In support of this goal, AEPI:

- ◆ Partnered with environmental and training experts from HQDA and the MACOMs to identify the full range of potential threats to the continued availability and capacity of lands for mission uses;
- ◆ Published a Land for Combat Training briefing book, which summarizes the work behind the Conservation Policy Memorandum, signed by the DASA-ESOH; and
- ◆ Published *Army Ecosystem Management Policy Study*, combining the work of ecologists, political scientists, and Army trainers to analyze the potential impact of ecosystem management policy implementation on the Army's training and testing missions.

Integrating Environment with Core Business Practices

Industry Roundtable

In January 1999, the Office of the Secretary of Defense met with eight multinational corporations (Lockheed Martin Corporation, Raytheon Systems, Ford Motor Company, Anheuser-Bush, Motorola, Honeywell, E.I. duPont de Nemours, Northrop Grumman), each of the military services, the Industrial College of the Armed Forces, and academia at Ft. McNair in Washington, DC. The purpose of the roundtable discussion was to exchange best practices for demonstrating the value of integrating environment, safety, and occupational health (ESOH) programs into the core business or mission of their organizations. The event was jointly sponsored by DASA-ESOH and the International Cooperative for Environmental Leadership (ICEL), and hosted by Major General Richard Engle, Commandant of the Industrial College of the Armed Forces.

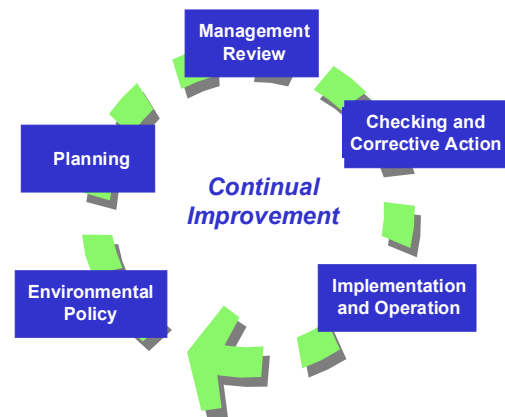
Participants identified a number of key issues:

- ◆ Business or mission value of ESOH must be demonstrated;
- ◆ ESOH is ineffective as a “stovepipe” and must be integrated into the core business of the organization; and
- ◆ Industry best practices provide valuable approaches for DoD;
- ◆ A system of incentives is needed if industry is expected to “green” the supply chain.

Environmental Management Systems

An Environmental Management System (EMS) requires organizations to identify their key environmental issues, establish an environmental policy, and set goals and objectives. The Army views EMS as one way to improve environmental performance by integrating environmental consid-

erations with existing management policies and procedures. The Deputy Secretary of Defense for Environmental Security launched a DoD pilot program to evaluate ISO 14001 -- an international EMS -- as a mandatory standard for managing its environmental responsibilities.



EMS Implementation Process

Since 1997, AEPI played a major role in evaluating how an EMS could be adapted to reflect DoD concerns. AEPI:

- ◆ Established an EMS Army Working Group to share information;
- ◆ Participated in a DoD EMS committee to develop draft interim guidance to evaluate ISO 14001 EMS specifications;
- ◆ Provided the Army pilot installations with two products: EMS implementation methodology framework and an EMS pilot project execution plan; and
- ◆ Provided an initial analysis for evaluating the benefits versus costs of EMS.

Institutionalizing Environment

Environmental Health Issues

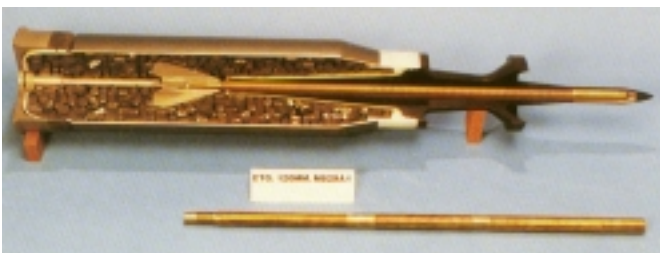
Chemical Demilitarization

In fall 1995, DASA-ESOH tasked AEPI to develop several products based on an independent assessment of the U.S. Army's Chemical Stockpile Disposal Project (CSDP). These included an environmental permitting schedule, an evaluation of delays in the schedule, and recommended actions to mitigate any identified problems, should they arise.

Chemical Demilitarization site at Johnston Atoll



AEPI consulted a wide range of federal and state data sources, developed a plan that provided the basis for assessing CSDP's environmental permitting experience, and identified strategies to overcome or avoid future obstacles. This assessment provided insights that helped the CSDP achieve its environmental permitting goals as quickly as possible while maintaining realistic expectations about the likely time it would take to achieve those goals.



DU Round

Depleted Uranium

Depleted Uranium (DU) is used in weapon systems, munitions, and tank armor to increase the survivability of soldiers on the battlefield. Following a 1993 congressional request, the Army Secretariat tasked AEPI to conduct a study on the health and environmental effects of DU use by the Army. In 1995, AEPI published *Health and Environmental Consequences of Depleted Uranium Use in the U.S. Army*, released to the Congress. The study examined:

- ♦ Health and environmental issues of using depleted uranium (DU) on the battlefield;
- ♦ Remediation technologies that exist or might be developed to clean up DU contamination;
- ♦ Potential hazards and protective measures of DU; and
- ♦ How to best protect the environment from the long-term DU use.

The Army followed several report recommendations. The Army's Secretariat-level environment and acquisition offices partnered to establish a centralized DU management office. Initial efforts are underway to establish a centralized library of DU-related information. In addition, the Army developed a comprehensive training package (TA-031-DUAT) to ensure general DU awareness for all Army personnel and specific training to implement recovery procedures.



The M1A1 tank incorporates steel encased depleted uranium armor.

Environmental Health Issues

Lead Exposure

Lead appears in a variety of applications in military equipment, water supply lines, electronic equipment, paint on various weapons systems and vehicles, and contaminated soils. These sources pose both long and short-term threats to the health of soldiers and civilian employees engaged in supporting Army operations and mission activities.

AEPI, with U.S. Army Center for Health Promotion and Preventive Medicine, developed and distributed a guide in 1996 to raise awareness of the health hazards related to lead exposure from Army activities. The *Mission-Area Guide to Lead Exposure Control* offers specific exposure control strategies that can be implemented by installations Army-wide.

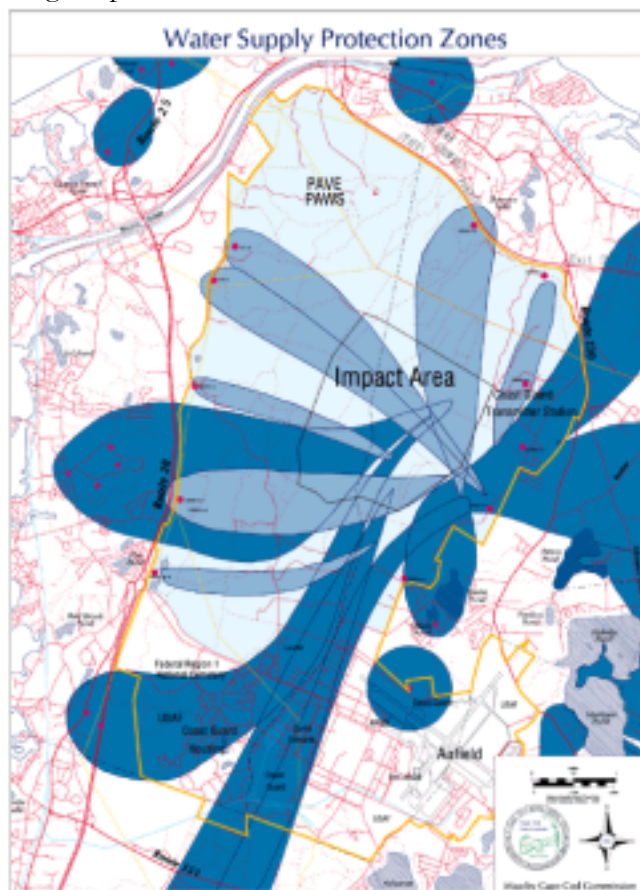
Massachusetts Military Reservation

The Massachusetts Military Reservation (MMR) consists of approximately 20,000 acres located in the upper Cape towns of Sandwich, Bourne, Mashpee and Falmouth. This area has been used by the Army and Air National Guard and U.S. Coast Guard for over fifty years to conduct military training activities.

In recent years, MMR discovered troubling amounts of groundwater contamination. The aquifer that runs under the MMR represents the sole source of water for the Cape Cod community. The use of the MMR facility for critical military training created concern about long-term water quality by residents and regulatory personnel.

Researchers at MMR are investigating the environmental fate and transport of toxic materials and working to determine the most effective site for remediation and monitoring. The results could

lead to formulation and implementation of environmentally-sustainable, science-based Army policy and guidance for future test and training ranges operations.



AEPI supported this effort by:

- ◆ Coordinating a briefing for the MMR Impact Area Groundwater Study Group in early 1997;
- ◆ Reviewing the MMR long-range water supply Process Action Team reports;
- ◆ Developing, with Los Alamos National Laboratory, a framework to quantify potential risks, so that appropriate decisions can be made about remediation at MMR; and
- ◆ Facilitating meetings to assist with public involvement activities.

Institutionalizing Environment

Army Implementation of the National Environmental Policy Act

AEPI initiated the current revision of the Army's Regulation 200-2, which guides the implementation of the National Environmental Policy Act (NEPA) and is under review by the total Army. This revised regulation provides the Army with the foundation for improved performance in the NEPA program.

The draft revision focuses on improvements in the efficiency and effectiveness of the Army NEPA program. The revised regulation integrates NEPA into Army planning and introduces recent concepts in environmental management and public participation. These efforts to re-engineer the Army NEPA process should culminate in considerable cost and time savings. A copy of the draft regulation is available for review on the AEPI website.

AEPI is partnering with other Army and DoD organizations in developing tools to enable process improvements cited in the revised regulation. AEPI is also partnering with DoD and the Council on Environmental Quality to facilitate an on-line symposium and traditional workshop on NEPA process improvement. Through the International Association for Impact Assessment (IAIA), AEPI is designing web-based impact analysis tools to improve NEPA implementation.

These efforts will reduce the overall cost for compliance with NEPA, and will integrate NEPA into the Army decision-making process.

Native Americans: Training Awareness for DoD

In October 1998, the Secretary of Defense established a new policy articulating principles for interacting with federally recognized American Indians and Alaska Natives (AI/AN) tribes. It requires DoD officials to consult with recognized tribes on a government-to-government basis when DoD actions have the potential to affect tribal interests. Recognizing the federal government's trust responsibilities, it requires military installations to develop and maintain "effective communication, coordination, and cooperation with tribes, especially at the tribal leadership-to-installation commander level and the tribal staff-to-installation staff levels." Coupled with other Cultural Resource Laws and Executive Orders, this DoD policy implies DoD (and Component Services) personnel will need to become familiar with a range of issues affecting AI/AN in five cornerstone points established by the Secretary of Defense, namely:

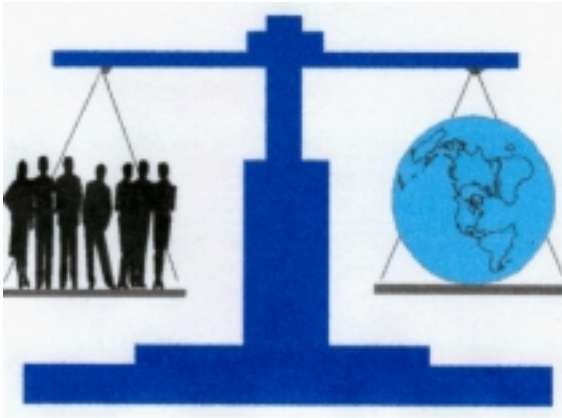
- ◆ Trust responsibilities
- ◆ Government-to-government relations
- ◆ Tribal sovereignty
- ◆ Consultation
- ◆ Natural and cultural resource protection

DoD's challenge is to implement this policy across its large and diverse organization. The Defense Secretariat, through the DASA-ESOH requested AEPI to provide overall project oversight and to design a strategy to set priorities, sequence actions, guide course developers, and build support for training throughout DoD.

... within the Army Mission

Strategies for Environmental Justice

The public is demanding increased involvement in government decisions affecting their communities. In response, a growing number of statutes, regulations, and publications now incorporate outlines on how the government must work with community stakeholders and environmental regulators. Several initiatives focus on environmental justice issues such as disproportionate harm to low income or minority communities.



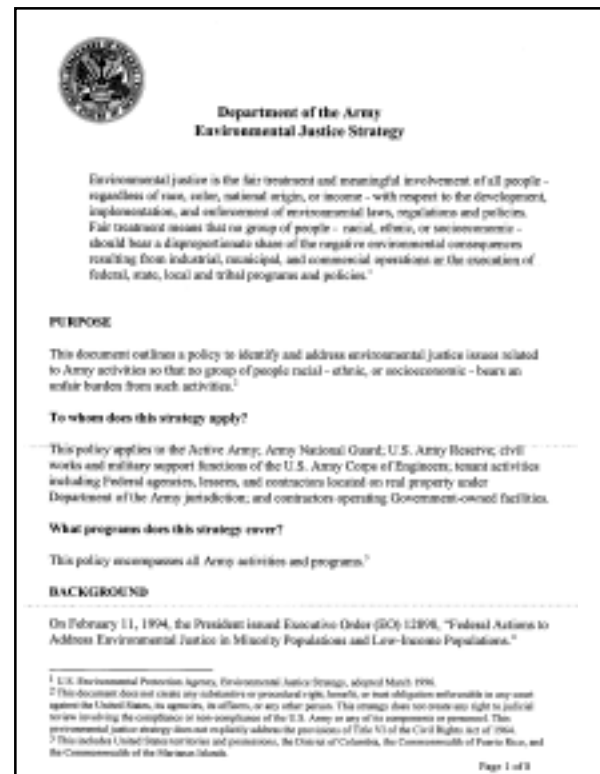
In June 1998, the Secretary of the Army tasked Assistant Secretary of the Army for Installations and Environment (ASA(I&E)) to develop the Army's environmental justice strategy and supporting guidance. ASA(I&E) selected AEPI to lead this effort for the Army.

Over the past year, AEPI first developed an environmental justice video and then prepared the strategy in coordination with several Army partners. The environmental justice strategy has been formally staffed and all comments have been addressed. The Army is planning to publish the strategy as an Army Pamphlet.

This strategy provides several recommendations for integrating environmental justice into the NEPA impact assessment process. Additionally, AEPI is working with other Army offices to develop performance measures to evaluate progress in implementing all the environmental justice strategy provisions.

“All communities and persons across this Nation should live in a safe and healthful environment.”

-President Clinton



Definition of Terms

AI/AN – American Indians and Alaskan Natives

AEC – Army Environmental Center

AEPI – Army Environmental Policy Institute

ASA(I&E) – Assistant Secretary of the Army for Installations and Environment

CSDP – Chemical Stockpile Disposal Project

DoD – Department of Defense

DU – Depleted Uranium

DASA-ESOH – Deputy Assistant Secretary of the Army for Environment Safety and Occupational Health

ENSI – Emerging Nontraditional Security Issues

ELRAMP – Environmental Legislative and Regulatory Analysis and Monitoring Program

EMS – Environmental Management System

ESOH – Environment, safety and occupational health

HQDA – Headquarters Department of Army

IEC – Industrial Ecology Center

IAIA – International Association for Impact Assessment

ICEL – International Cooperative for Environmental Leadership

LTC – Lieutenant Colonel

MACOMs – Major Commands

MMR – Massachusetts Military Reservation

NEPA – National Environmental Policy Act

ORNL – Oak Ridge National Laboratory

ODEP – Office of the Directorate for Environmental Programs

OCONUS – Outside Continental United States

POM – Presidio of Monterey

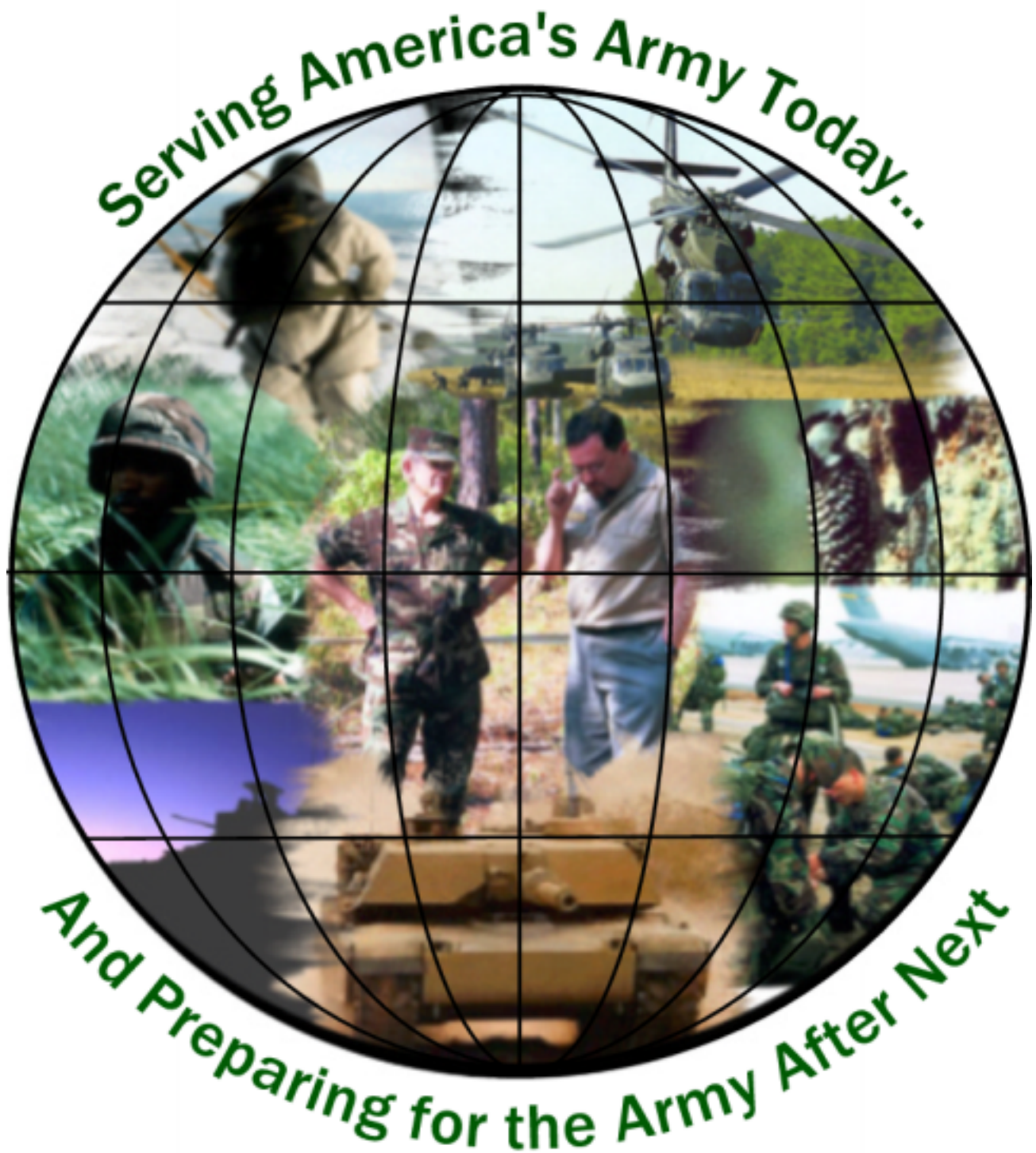
SREO – Southern Regional Environmental Office

SMART – Strategic Management, Analysis, Requirements and Technology

From Top to Bottom and Left to Right:

AEPI Staff Sascha Beck and Rick Sinclair, General Miller of FORSCOM, and GA Lt. Governor Taylor celebrate Earth Day 99; Some of AEPI University Partners; Phil Huber from the Army Secretariat and Rebecca Rubin; AEPI Staff Sascha Beck and Rick Sinclair, General Miller of FORSCOM, and GA Lt. Governor Taylor celebrate Earth Day 99; AEPI project review meeting with David Eady (AEPI), Alan Gorowitz (GA Tech), Rebecca Rubin, Tom Bevin (GTRI), and Phil Huber; Mikhail Gorbachev; New 2000 AEPI Management Team Dick Wright and Dan Uyeyugi; AEPI community river initiative; Randall Yim from the Defense Secretariat and Rebecca Rubin; George Carellas (SREO) and Joe Whittaker from the Army Secretariat; Loreta Newman (CEQ) and John Brent (Ft Benning) at AEPI community river initiative; Randall Yim from the Defense Secretariat and Rebecca Rubin; and John Brent, Rebecca Rubin, and Major Peter Rzeszotarski.





AEPI Web Site: www.aepi.army.mil